

## Appendix D—Poster Session Abstracts

(Listed in alphabetical order by senior author)

### Behavior, Effects, and Management in Unburned and Previously Burned Blackbrush (*Coleogyne Ramosissima*) Shrublands in the Mojave Desert

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The frequency of fire and the size of human populations increased recently in the Mojave Desert, and fire is now a threat to both homes and wildlands in some areas. Land managers need tools to reduce the chance of fire spreading from wildlands into urban areas, and from urban areas, campgrounds, and roadsides into wildlands. Although most desert plant communities do not burn easily, those dominated by blackbrush (*Coleogyne ramosissima*), invasive annual grasses, or especially those dominated by both, can fuel very large fires. Prescribed fire has been used to reduce woody fuels from blackbrush, but the profusion of fine fuels from invasive annual grasses that typically follow create a new fire hazard and other threats to ecosystem integrity. Management tools are needed to reduce existing fire hazards but not create new hazards or threaten natural resources. This study will document the behavior and ecological effects of fire and evaluate the use of fire and mechanical thinning to reduce woody fuel loads from blackbrush, and fire and herbicides to reduce fine fuel loads from invasive annual grasses. Preliminary, pretreatment plant data from spring 2001 in unburned and previously burned (9–15 years post-fire) blackbrush vegetation at Joshua Tree National Park, Calif., Spring Mountains, Nev., and Beaver Dam Mountains, Utah, found previous burns reduced species richness at 10-, 100-, and 1,000-m<sup>2</sup> scales, and increased evenness at the 1-m<sup>2</sup> scale. Total cover was the same, but alien annual plant cover was 191 percent higher and native cover was 26 percent lower in burned than unburned areas. Results varied among the three sites, reflecting the difficulty in predicting patterns of post-fire plant succession in blackbrush scrub vegetation.